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<213> Homo sapiens
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[illegible]

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gtccgtgcct tccacgcggt gccgcataac ttggtggcct cgacggccgt ctccggacgaa      180
ctagtggcag cgctggcgat gccaccgagc ctggcgagtg agctgtcgac cgggcgacgt      240
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gccaccatgc aggtgagggg tgggctgagg aacgttgcta tggggaagcg gttgctagag 420
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<211> 654

<212> DNA

<213> Homo sapiens

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<211> 180

<212> DNA

<213> Homo sapiens

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 aatagtgcc tcaacccct catctactgt gtcttcagca gctccatctc tttcccctgc 180

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 <211> 201  
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 ctgcgcgtcc tccaccacga tgggtgggcac ggtgaaggcg cggcggctcg cctggcgccc 180  
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ccacttcttc tgcttggcgc caacgctgag gatgccccag gcattggcca gcagggagag 300  
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ggatccaacc accccggcct ggggaacaga aagtacaaca gtgaatggaa atgaccaagc 180  
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<213> Homo sapiens
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Pro Trp Met Ala Leu Cys Val Leu Trp Cys Ser Val Ala Gln Ala Leu  
20 25 30

Leu Leu Pro Val Phe Leu Trp Ala Cys Asp Arg Tyr Arg Ala Asp Leu  
35 40 45

Lys Ala Val Arg Glu Lys Cys Met Ala Leu Met Ala Asn Asp Glu Glu  
50 55 60

Ser Asp Asp Gly Glu Asp Gly Leu Arg Val Ala Pro Gly Arg Val  
65 70 75

<210> 15

<211> 186

<212> PRT

<213> Homo sapiens

<400> 15

Gly Gln His Val Gly Ala Ala Asn Gly Ala Gln Glu Asp Val Ala Phe  
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Asn Leu Ile Ile Leu Ser Leu Thr Glu Gly Leu Gly Leu Gly Gly Leu  
20 25 30

Leu Gly Asn Gly Ala Val Leu Trp Leu Leu Ser Ser Asn Val Tyr Arg  
35 40 45

Asn Pro Phe Ala Ile Tyr Leu Leu Asp Val Ala Cys Ala Asp Leu Ile  
50 55 60

Phe Leu Gly Cys His Met Val Ala Ile Val Pro Asp Leu Leu Gln Gly  
65 70 75 80

Arg Leu Asp Phe Pro Gly Phe Val Gln Thr Ser Leu Ala Thr Leu Arg  
85 90 95

Phe Phe Cys Tyr Ile Val Gly Leu Ser Leu Leu Ala Ala Val Ser Val  
100 105 110

Glu Gln Cys Leu Ala Ala Leu Phe Pro Ala Trp Tyr Ser Cys Arg Arg  
115 120 125

Pro	Arg	His	Leu	Thr	Thr	Cys	Val	Cys	Ala	Leu	Thr	Trp	Ala	Leu	Cys
130						135					140				

Leu Leu Leu His Leu Leu Leu Ser Gly Ala Cys Thr Gln Phe Phe Gly  
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Glu Pro Ser Arg His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val  
165 170 175

Leu Leu Ala Leu Leu Cys Cys Thr Met Cys  
180 185

<210> 16

<211> 140

<212> PRT

<213> Homo sapiens





<400> 18

Leu Cys Cys Pro Ala Gly Leu Gly Asn Val Ala Ala Ile Ala Leu Gly  
1 5 10 15

Arg Asp Gly Ala Ile Thr Arg His Leu Gln His Thr Leu Arg Thr Arg  
20 25 30

Ser Arg Ala Ser Leu Leu Met Ile Ala Leu Ala Arg Val Pro Ser Ala  
35 40 45

Leu Ile Ala Leu Ala Pro Leu Leu Phe Gly Arg Gly Glu Val Cys Asp  
50 55 60

Ala Arg Leu Gln Arg Cys Gln Val Ser Arg Glu Pro Ser Tyr Ala Ala  
65 70 75 80

Phe Ser Thr Arg Gly Ala Phe His Leu Pro Leu Gly Val Val Pro Phe  
85 90 95

Val Tyr Arg Lys Ile Tyr Glu Ala Ala Lys Phe Arg Phe Gly Arg Arg  
100 105 110

Arg Arg Ala Val Leu Pro Leu Pro Ala Thr Met Gln Val Arg Gly Gly  
115 120 125

Leu Arg Asn Val Ala Met Gly Lys Arg Leu Leu Glu Lys Glu Ala Ala  
130 135 140

Ser Arg Met Gly Glu Trp Ala Glu Ala Cys Thr Asn Gly Ala Arg Ala  
145 150 155 160

Gln Arg Ser Pro Gly Ala His Glu Asp Lys Phe Ala Ile Ser Ser Ser  
165 170 175

Glu Ala Gly Thr Glu Gly Leu Val Thr Gly Ser Pro Gly Thr Gln Val  
180 185 190

Arg Gly Ser Pro Ala Ala Tyr Leu Val Arg Ala Glu Glu Arg Val Ser  
195 200 205

Gln Ser Ala Arg  
210

<210> 19

<211> 217

<212> PRT

<213> Homo sapiens

<400> 19

Met Asp Asp Asn Ala Thr Asn Thr Ser Thr Ser Phe Leu Ser Val Leu  
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Asn Pro His Gly Ala His Ala Thr Ser Phe Pro Phe Asn Phe Ser Tyr  
20 25 30

Ser Asp Tyr Asp Met Pro Leu Asp Glu Asp Glu Asp Val Thr Asn Ser  
35 40 45

Arg Thr Phe Phe Ala Ala Lys Ile Val Ile Gly Met Ala Leu Gly  
50 55 60

Ile Met Leu Val Cys Gly Ile Gly Asn Phe Ile Phe Ile Ala Ala Leu  
65 70 75 80

Val Arg Tyr Lys Lys Leu Arg Asn Leu Thr Asn Leu Leu Ile Ala Asn  
85 90 95

Leu Ala Ile Ser Asp Phe Leu Val Ala Ile Val Cys Cys Pro Phe Glu  
100 105 110

Met Asp Tyr Tyr Val Val Arg Gln Leu Ser Trp Glu His Gly His Val  
115 120 125

Leu Cys Thr Ser Val Asn Tyr Leu Arg Thr Val Ser Leu Tyr Val Ser  
130 135 140

Thr Asn Ala Leu Leu Ala Ile Ala Ile Asp Arg Val Gln Gln Gln Trp  
145 150 155 160

Gly Gln Gln Arg Arg Ser Gly Arg Lys Gly His Trp Asn Cys Pro Leu  
165 170 175

Leu Tyr Cys Ser Cys Arg Leu Met Arg Gly Val Ser Ile Pro Pro Arg  
180 185 190

Cys Gly Cys Met Gly Asp Ser Lys Ala Cys Pro Leu Thr Asp Ser Glu  
195 200 205

Lys Ser Ser Pro Phe Pro Ala Leu Phe  
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<211> 60

<212> PRT

<213> Homo sapiens

<400> 20

Ala Phe Ile Cys Cys Trp Ser Pro Tyr Phe Leu Phe Asp Ile Leu Asp  
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Asn Phe Asn Leu Leu Pro Asp Thr Gln Glu Arg Phe Tyr Ala Ser Val  
20 25 30

Ile Ile Gln Asn Leu Pro Ala Leu Asn Ser Ala Ile Asn Pro Leu Ile  
35 40 45

Tyr Cys Val Phe Ser Ser Ser Ile Ser Phe Pro Cys  
50 55 60

<210> 21

<211> 67

<212> PRT

<213> Homo sapiens

<400> 21

Glu Lys Gln Ala Arg Val Leu Ile Val Ile Ala Trp Ser Leu Ser Phe  
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Leu Phe Ser Ile Pro Thr Leu Ile Ile Phe Gly Lys Arg Thr Leu Ser  
 20 25 30  
 Asn Gly Glu Val Gln Cys Trp Ala Leu Trp Pro Asp Asp Ser Tyr Trp  
 35 40 45  
 Thr Pro Tyr Met Thr Ile Val Ala Phe Leu Val Tyr Phe Ile Pro Leu  
 50 55 60  
 Thr Ile Ile  
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 1 5 10 15  
 Ile Ser Tyr Ala Arg Asn Lys Ala Leu Pro His Trp Leu Cys His Asp  
 20 25 30  
 Tyr Asp Ile Leu Gly Val Trp Gly Ala Trp Val Val Arg Ile Pro Tyr  
 35 40 45  
 Arg Ser Pro Glu Ala Trp Gly Gly Pro Val Gly Asp Ala Arg Ser Leu  
 50 55 60  
 Cys Ser Thr Leu Pro His Ala Arg Leu Ser Asn Ala Lys Lys Gln Ala  
 65 70 75 80  
 Val His Thr Val Met Gly Ile Trp Met Val Ser Phe Ile Leu Ser Ala  
 85 90 95  
 Leu Pro Ala Val Gly Trp His Asp Thr Ser Glu Arg Phe Tyr Thr His  
 100 105 110  
 Gly Cys Arg Phe Ile Val Ala Glu Ile Gly Leu Gly Phe Gly Val Cys  
 115 120 125  
 Phe Leu Leu Leu Val Gly Gly Ser Val Ala Met Gly Val Ile Cys Thr  
 130 135 140  
 Ala Ile Ala Leu Phe Gln Thr Leu Ala Val Gln Val Gly Arg Gln Ala  
 145 150 155 160  
 Asp Arg Arg Ala Phe Thr Val Pro Thr Ile Val Val Glu Asp Ala Gln  
 165 170 175  
 Gly Lys Arg Arg Ser Ser Ile Asp Gly Ser Glu Pro Ala Lys Thr Ser  
 180 185 190  
 Leu Gln Thr Thr Gly Leu Val Thr Thr Ile Val Phe Ile Tyr Asp Cys  
 195 200 205  
 Leu Met Gly Phe Pro Val Leu Val  
 210 215

008221 E2E05760

<210> 23  
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 <213> Homo sapiens

<400> 23

Met Ser Asp Glu Arg Arg Leu Pro Gly Ser Ala Val Gly Trp Leu Val  
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Cys Gly Gly Leu Ser Leu Leu Ala Asn Ala Trp Gly Ile Leu Ser Val  
 20 25 30

Gly Ala Lys Gln Lys Lys Trp Lys Pro Leu Glu Phe Leu Leu Cys Thr  
 35 40 45

Leu Ala Ala Thr His Met Leu Asn Val Ala Val Pro Ile Ala Thr Tyr  
 50 55 60

Ser Val Val Gln Leu Arg Arg Gln Arg Pro Asp Phe Glu Trp Asn Glu  
 65 70 75 80

Gly Leu Cys Lys Val Phe Val Ser Thr Phe Tyr Thr Leu Thr Leu Ala  
 85 90 95

Thr Cys Phe Ser Val Thr Ser Leu Ser Tyr His Arg Met Trp Met Val  
 100 105 110

Cys Trp Pro Val Asn Tyr Arg  
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<210> 24  
 <211> 330  
 <212> PRT  
 <213> Homo sapiens

<400> 24

Met Asp Pro Thr Thr Pro Ala Trp Gly Thr Glu Ser Thr Thr Val Asn  
 1 5 10 15

Gly Asn Asp Gln Ala Leu Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile  
 20 25 30

Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn  
 35 40 45

Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe  
 50 55 60

Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys  
 65 70 75 80

Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser  
 85 90 95

Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala  
 100 105 110

Tyr Leu Ala Gly Leu Ser Met Leu Ser Thr Val Ser Thr Glu Arg Cys



[illegible]

$\langle 210 \rangle$	26
$\langle 211 \rangle$	393







Ser Ala Tyr Phe Thr Thr Glu Thr Val Leu Val Ile Val Lys Ser Gln  
 195 200 205

Glu Lys Ile Phe Cys Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr  
 210 215 220

Tyr Lys Ser Tyr Phe Leu Phe Ile Phe Gly Ile Glu Phe Val Gly Pro  
 225 230 235 240

Val Val Thr Met Thr Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp  
 245 250 255

Phe Lys Ala Val Pro Gly Phe Gln Thr Glu Gln Ile Arg Lys Arg Leu  
 260 265 270

Arg Cys Arg Arg Lys Thr Val Leu Val Leu Met Cys Ile Leu Thr Ala  
 275 280 285

Tyr Val Leu Cys Trp Ala Pro Phe Tyr Gly Phe Thr Ile Val Arg Asp  
 290 295 300

Phe Phe Pro Thr Val Phe Val Lys Glu Lys His Tyr Leu Thr Ala Phe  
 305 310 315 320

Tyr Ile Val Glu Cys Ile Ala Met Ser Asn Ser Met Ile Asn Thr Leu  
 325 330 335

Cys Phe Val Thr Val Lys Asn Asp Thr Val Lys Tyr Phe Lys Lys Ile  
 340 345 350

Met Leu Leu His Trp Lys Ala Ser Tyr Asn Gly Gly Lys Ser Ser Ala  
 355 360 365

Asp Leu Asp Leu Lys Thr Ile Gly Met Pro Ala Thr Glu Glu Val Asp  
 370 375 380

Cys Ile Arg Leu Lys  
 385

<210> 28  
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 <212> PRT  
 <213> Synthetic Substrate

<400> 28

Ala Pro Arg Thr Pro Gly Gly Arg Arg  
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 <212> DNA  
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<220>  
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<400> 29  
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<210> 30  
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 <212> DNA  
 <213> Artificial  
  
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 <220>  
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**DEVELOPMENT OF THE**

19

21



240

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245 250 255

Ala Thr Leu Arg Phe Cys Tyr Ile Val Gly Leu Ser Leu Leu Ala Ala  
260 265 270

Val Ser Val Glu Gln Cys Leu Ala Ala Leu Phe Pro Ala Trp Tyr Ser  
275 280 285

Cys Arg Arg Pro Arg His Leu Thr Thr Cys Val Cys Ala Leu Thr Trp  
290 295 300

Ala Leu Cys Leu Leu Leu His Leu Leu Leu Ser Gly Ala Cys Thr Gln  
305 310 315 320

Phe Phe Gly Glu Pro Ser Arg His Leu Cys Arg Thr Leu Trp Leu Val  
325 330 335

Ala Ala Val Leu Leu Ala Leu Leu Cys Cys Thr Met Cys Gly Ala Ser  
340 345 350

Leu Met Leu Leu Leu Arg Val Glu Arg Gly Pro Gln Arg Pro Pro Pro  
355 360 365

Arg Gly Phe Pro Gly Leu Ile Leu Leu Thr Val Leu Leu Phe Leu Phe.  
370 375 380

Cys Gly Leu Pro Phe Gly Ile Tyr Trp Leu Ser Arg Asn Leu Leu Trp  
385 390 395 400

Tyr Ile Pro His Tyr Phe Tyr His Phe Ser Phe Leu Met Ala Ala Val  
405 410 415

His Cys Ala Ala Lys Pro Val Val Tyr Phe Cys Leu Gly Ser Ala Gln  
420 425 430

Gly Arg Arg Leu Pro Leu Arg Leu Val Leu Gln Arg Ala Leu Gly Asp  
435 440 445

Glu Ala Glu Leu Gly Ala Val Arg Glu Thr Ser Arg Arg Gly Leu Val  
450 455 460

Asp Ile Ala Ala Ala Leu Gly Pro Pro Thr Pro Ala Ala Ala Pro Val  
465                      470                      475                      480

Arg Gln Glu Gly Asp Val Gly Lys Val Val Gly Ser Glu Ala Gly Ala  
485 490 495

Ser Arg Thr Trp Arg Arg Pro Trp Trp Val Thr Arg Ser Cys Ala Val  
500 505 510

Lys Val Val Thr Leu Gly Leu Glu His Glu Ala Pro Leu Gly Gly Ser  
515 520 525

Trp Lys  
530

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$\langle 211 \rangle$	1612

<212> DNA  
<213> Homo sapiens

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tctcagaccc tctccccaca tctcctgggc cctgccccca cctggcgtag agggaccagc 180  
cccacggaag gctcttgagg ccaggtaacc atggggaggg gaggaatggg gacaccttcc 240  
tcttgagtgt cttaggggaag agaagcttag gtcaggtggc tgagggtgga aatgagagag 300  
gggtctcctc ctggagggtc tcaccattcc cttggtcacc cacccaactc tcatctcccc 360  
tgatgtgggg aggagcaggg ggcattgatt cctgagcccc agactcaact gttgtggttt 420  
acaggggcat caggagagag agcgagcaga acacactcct gcagcatccc ctggcccccc 480  
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ccgtgcactg cgcgccaag ccgctcgtct acttctgcct gggcagtgcc cagggccgca 1320  
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tcaggagac ctcccgcgg ggcttgggtg acatagcagc ctgagccctg gggccccga 1440  
ccccagctgc agccccgtg aggcaagagg gtgacgtggg gaagggtgtg gggtcagagg 1500  
ctggggccag ccggacctgg aggaggcctt ggtgggtgac ccggtcatgt gctgtcaaag 1560  
ttgtgacctt tggctctggag catgaggctc ccctgggagg cagctggaaa gg 1612

<210> 44  
<211> 311

0975037.12800





Gly Leu Val Asp Ile Ala Ala  
305 310

<210> 45  
<211> 939  
<212> DNA  
<213> Homo sapiens

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gggaatgggg cagtcctctg gctgctcagc tccaatgtct acagaaaccc cttegccatc 180  
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cagtgcctgg ccgccctctt ccagcctgg tactcgtgcc gccgcccacg ccacctgacc 420  
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ctcacgctcc tctcttctc cttctgcggc ctgcccttcg gcactctactg gctgtcccgg 720  
aacctgctct ggtacatccc ccactacttc taccattca gcttcctcat ggccgccgtg 780  
cactgcgcgg ccaagcccgt cgtctacttc tgccctgggca gtgcccaggg ccgcaggctg 840  
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<211> 311  
<212> PRT  
<213> Homo sapiens

<400> 46

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1 5 10 15  
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20 25 30  
Gly Leu Gly Leu Gly Gly Leu Leu Gly Asn Gly Ala Val Leu Trp Leu  
35 40 45  
Leu Ser Ser Asn Val Tyr Arg Asn Pro Phe Ala Ile Tyr Leu Leu Asp  
50 55 60

Val Ala Cys Ala Asp Leu Ile Phe Leu Gly Cys His Met Val Ala Ile  
 65 70 75 80  
 Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe Pro Gly Phe Val Gln  
 85 90 95  
 Thr Ser Leu Ala Thr Leu Arg Phe Cys Tyr Ile Val Gly Leu Ser Leu  
 100 105 110  
 Leu Ala Ala Val Ser Val Glu Gln Cys Leu Ala Ala Leu Phe Pro Ala  
 115 120 125  
 Trp Tyr Ser Cys Arg Arg Pro Arg His Leu Thr Thr Cys Val Cys Ala  
 130 135 140  
 Leu Thr Trp Ala Leu Cys Leu Leu Leu His Leu Leu Leu Ser Gly Ala  
 145 150 155 160  
 Cys Thr Gln Phe Phe Gly Glu Pro Ser Arg His Leu Cys Arg Thr Leu  
 165 170 175  
 Trp Leu Val Ala Ala Val Leu Leu Ala Leu Leu Cys Cys Thr Met Cys  
 180 185 190  
 Gly Ala Ser Leu Met Leu Leu Leu Arg Val Glu Arg Gly Pro Gln Arg  
 195 200 205  
 Pro Pro Pro Arg Gly Phe Pro Gly Leu Ile Leu Leu Thr Val Leu Leu  
 210 215 220  
 Phe Leu Phe Cys Gly Leu Pro Phe Gly Ile Tyr Trp Leu Ser Arg Asn  
 225 230 235 240  
 Leu Leu Trp Tyr Ile Pro His Tyr Phe Tyr His Phe Ser Phe Leu Met  
 245 250 255  
 Ala Ala Val His Cys Ala Ala Lys Pro Val Val Tyr Phe Cys Leu Gly  
 260 265 270  
 Ser Ala Gln Gly Arg Arg Leu Pro Leu Arg Leu Val Leu Gln Arg Ala  
 275 280 285  
 Leu Gly Asp Glu Ala Glu Leu Gly Ala Val Arg Glu Thr Ser Arg Arg  
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 Gly Leu Val Asp Ile Ala Ala  
 305 310

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<210> 48  
<211> 29  
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<220>  
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<400> 48  
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29

<210> 49  
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25

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gggttatattt agtctgatgc agtccacctc

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gatcgaattc atgatggagc ccagagaagc tggac

35

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<400> 52  
gatcctcgag tcaggctgct atgtccacca ggcc

34

<210> 53

